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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/027,220	12/21/2001	Thomas W. Stone	6536-109	1762

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EXAMINER

LE, QUE TAN

ART UNIT PAPER NUMBER

2878

DATE MAILED: 07/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/027,220

Applicant(s)

STONE, THOMAS W.

Examiner

Que T. Le

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 June 2004.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.  
4a) Of the above claim(s) 2,8 and 14 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1,3-7,9-13 and 15-23 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 21 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

This is in response to Applicant's amendment filed June 1, 2004.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-7, 9-13 and 15-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brenner et al 4,931,959.

Brenner et al disclose an optical shuffle system comprising: an imaging device having a first component or input plane (401) spaced apart from a second component or output plane (435); and deflecting prisms (405, 410, 420, 425), Fourier transform lenses (415, 430 as means, with at least one surface, affixed to the imaging device proximate to one of the planes for rearranging spatial components of an object located proximate the input plane into a rearranged image within the output plane.

The at least one surface disclosed by Brenner et al is either diffractive or refractive.

Per the discussion above, although Brenner et al lack a clear inclusion of that the imaging device is in the form of a gradient index rod lens and/or an optical data pipe, the imaging devices, discussed above would have been in the form of an optical data pipe since the devices is in the form of optical signals conductor for data transmission purposes. The use of a gradient index rod lens and/or an optical data pipe for providing spatial transmission lines in an optical interconnection network would have been known and available in the optics art. It would have been obvious to one of ordinary skill in the

art at the time of the invention to modify Brenner et al by utilizing the gradient index rod lens and/or an optical data pipe in order to provide a different form of spatial components transmission lines for the system without altering the basic performances of the system.

Applicant's arguments filed June 1, 2004 have been fully considered but they are not persuasive.

With respect to Applicant's arguments, on pages 14-16 of the remarks, that the Brenner et al reference fails to disclose means incorporated into or affixed to the imaging system proximate one of the planes for rearranging spatial components of an object ... into a rearranged image within the output plane, this is an incorrect statement because means 405, 415, 420, 430 of Brenner et al are part(s) of the imaging system, therefore, the means must be affixed and/or incorporated into the system for performing the desired function of directing the light beams, adjusting the optical paths relative to each other to rearrange the order of the projected information of images. Thus, the reference discloses the claimed features.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re*

*Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the motivation for the rejection set forth above is found in the knowledge generally available to the examiner as one of ordinary skill in the art. Noted that, at least on page 3 of the present specification, applicant already declared that “although the term “optical data pipe” refers to single (imaging) and double (infinite conjugate) gradient index rod lens relaxed tolerance optical interconnect devices of the type described in U.S. Patent Application S.N. 09/425,551, the term may also include related optical devices for dense optical interconnects including those using fiber arrays or imaging fiber arrays”.

Accordingly, the rejection set forth above is proper.

Applicant's arguments with respect to claims 1, 3-7, 9-13 and 15-23 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Que T. Le whose telephone number is (571) 272-2438.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Que T Le  
Primary Examiner  
Art Unit 2878